CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 93-079
SITE CLEANUP REQUIREMENTS

TOSCO REFINING COMPANY AND TOSCO CORPORATION
PHILLIPS PETROLEUM COMPANY
TIDEWATER OIL COMPANY
AVON REFINERY
CONTRA COSTA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, hereinafter called the Board, finds that:

Facility Description

1. This 2,100-acre facility is about 3 miles east of the City of Martinez (Attached Figure 1) on the southern shore of Suisun Bay in Contra Costa County. The facility is bounded on the west by the Pacheco Creek and Walnut Creek, on the north by wetlands and Suisun Bay, on the south by Highway 4, and on the east by Memory Gardens cemetery, Mallard Reservoir, Hasting Slough and wetlands.

Description of the Dischargers

2. Tosco Refining Company, a division of Tosco Corporation, (hereinafter called Tosco) owns and operates the Avon Refinery (hereinafter called the facility) which has an approximate daily throughput capacity of 145,000 barrels of petroleum crude oil and produces primarily gasoline and diesel fuels. Other products are liquid petroleum gas, heating oil, jet fuel and petroleum coke. The facility has been operating since 1913 and has been owned by Tosco since April 1976.

3. The refinery was previously owned by several companies. Beginning from 1913 until July 1966 the refinery was owned and operated by Pacific Oil, Associated Oil, and Tidewater Oil Companies. Texaco, Inc. acquired these companies as part of the acquisition of Getty Oil in 1984. However, since Tidewater was the owner/operator of the facility and still exists, as a wholly owned subsidiary of Texaco Inc., Texaco indicated that Tidewater Oil Company (hereinafter called Tidewater) is the proper entity to be considered former owner of the Avon Refinery.

4. Phillips Petroleum Company (hereinafter called Phillips) acquired the Avon refinery from Tidewater in July 1966 and owned and operated the facility from July 1966 through March 31, 1976.

5. This item was scheduled for consideration by the Board at the December Board Meeting. In December 3, 1992, March 26, 1993, April 30, 1993, and June 1, 1993 submittals, Tosco provided additional information and requested that the previous owners of the facility also be named as dischargers. Phillips, in comments dated

February 16, 1993, May 14, 1993, and May 19, 1993, and Texaco, on behalf of Tidewater, in comments dated February 15, 1993, March 29, 1993, April 30, 1993, and June 1, 1993, disagreed with Tosco's conclusion and provided additional information (Appendix C).

6. Tosco, Phillips, and Tidewater have informed the Board that they have resolved their federal court proceeding through a confidential Joint Investigation and Remediation Agreement dated July 1, 1993, which covers the facility area and concerns addressed in this Order. They have jointly advised the Board that they agree to implement the requirements, prohibitions, specifications, provisions, and self-monitoring requirements of this Order, that they do not dispute the Board's authority to issue this Order, and that they will not in any way contest the issuance or validity of this Order. The dischargers' consent to this Order is for compromise and settlement of this matter only and shall not be deemed an admission of the underlying facts on which the Order is based, for purposes of issuance of any other order. They have further stated that as between Tosco, Phillips, and Tidewater, and as to third parties, their consent shall not be deemed an admission of any fact or violation of any law. The Board finds that substantial evidence exists in the record to name Tosco, Phillips, and Tidewater as dischargers in this Order.

7. Phillips and Tidewater have expressed concern regarding whether TOSCO, as owner and operator, will provide them access to the site. This would impede the ability of Tidewater and Phillips to perform and complete their responsibilities under this Order. In a letter dated March 26, 1993, Tosco has agreed to allow reasonable facility access and to work with Tidewater and Phillips in selecting a consultant and conducting the cleanup. The Board hereby directs staff to work with the dischargers to resolve any access disputes that arise as a result of this Order.

8. Tosco, Phillips, and Tidewater are jointly hereinafter called the dischargers for the purposes of this Order only.

Related Orders

9. On June 20, 1990, the Board adopted Site Cleanup Requirements Order No. 90-088 related to the FPLH recovery activities.

10. On July 15, 1992, the Board adopted Waste Discharge Requirements Order No. 92-078, which required a work plan, specifying corrective actions to be taken to bring fourteen waste management units into compliance with Chapter 15 requirements.

11. On June 20, 1990, the Board adopted Waste Discharge Requirements Order No. 90-083, which required Tosco to conduct soil borings and install additional monitoring wells for further characterization of waste management units at the facility.

12. The Board also adopted Waste Discharge Requirements Order No. 88-053, Permit No. CA0004961, as amended on December 12, 1990, to regulate the discharge of treated waste water to Suisun Bay.

13. The Board adopted Resolution No. 67-31 on June 13, 1967 prescribing Waste Discharge Requirements for Phillips Petroleum.

14. The Board adopted Resolution 576 on July 16, 1964 to regulate the Tidewater's discharge of various wastes to surface waters and onto land.

FPLH Pools

15. Specification B.2 of Order 90-088 required that Tosco conduct FPLH recovery activities, as needed, to remove all pools of FPLH beneath the Facility as follows:

    a. Installation of required number of investigation wells for each pool of Tracts 1, 2, 3 and 4, in order to delineate these pools and determine where cleanup is required;
    b. Installation of investigation wells around the site to discover any other possible pools of FPLH (i.e. area between wells EEI-30, EEI-31 and EEI-71 and areas other than Tracts 1, 2, 3 and 4);
    c. Continuation and expansion of FPLH recovery operations in Tracts 2 and 3; and,
    d. Initiation of FPLH recovery operations in Tracts 1 and 4.

16. Provision C.1.b of Order 90-088 required Tosco to delineate the FPLH pools in Tracts 1, 2, 3 and 4. During June 1990 to June 1991, Tosco installed 39 FPLH delineation wells and 2 trenches in the following Tracts: Tract 1-9 wells; Tract 2-5 wells; Tract 2-2 trenches; Tract 3-5 wells; Tract 4-10 wells; and, Tract 6-10 wells. Tosco made progress in the delineation of the FPLH pools, however some delineation remains to be done. Tosco reported that additional delineation of FPLH pools is required for Tract 1, the site formerly occupied by a PG&E co-generation power plant in Tract 2, and south of Tract 3 around wells EEI-41 and MK-36A. Delineation of FPLH pools in Tract 4 are not sufficient in the north side of well EEI-71, and south side of well EEI-30. There is also a FPLH pool in Tract 6 identified with well EEI-37 which needs further delineation.

17. On March 1, 1993, Tosco submitted a technical report pursuant to the Regional Board's request (Executive Officer's December 3, 1992 letter), regarding delineation of FPLH pools in specific areas. This technical report documented: 1) delineation of FPLH pool beneath the site formerly occupied by a PG&E co-generation power plant (PG&E site) in Tract 2; and, 2) a work plan to complete the delineation of FPLH pools beneath the refinery in areas such as Tract 1, around wells EEI-41 and MK-36A in Tract 3, north side of well EEI-71 and south side of well EEI-30 in Tract 4, and around well EEI-37 in Tract 6. Staff review of this technical report reveals that the delineation at the PG&E site is not complete around its boundary at locations such as in the east, between Tract 1 and Tract 2, in the west, around monitoring well EEI-35, and area around Tank 318.

18. Order 90-088 required Tosco to continue and expand the FPLH recovery operations in Tracts 2 and 3, and to initiate the FPLH recovery operations in Tracts 1 and 4. Although the recovery activities were continued in Tracts 2 and 3, Tosco was unsuccessful to significantly decrease the apparent thickness of FPLH in the monitoring wells of the facility. A FPLH recovery systems was constructed but operations were not initiated in Tract 1. No FPLH recovery systems were constructed in Tract 4-North. In July 1991 Tract 2 and in February 1992 Tract 3 FPLH recovery systems were removed from service due to storage tank repair work. New systems are being installed. The history of the annual removal rates of FPLH from Tracts 2 and 3 are as follows:

Year	FPLH Volume in 1000 Gallons
1984	6
1985	219
1986	467
1987	508
1988	254
1989	226
1990	134
1991	80
1992	12
Total	1,906

19. Although Tosco has removed 1.9 million gallons of FPLH from the pools beneath the Tracts 2 and 3, there still remains FPLH pools. Tosco is unable to determine the exact volume of FPLH pools. In 1990, Tosco reported FPLH beneath Tracts 1, 2, 3 and 4 which was estimated at that time to be 23 million gallons. However, Tosco reports that the 23 million gallons estimate was based on the assumption that the thickness of FPLH in the monitoring well was equal to thickness of FPLH in the formation. The thickness of FPLH in a monitoring well is function of many variables, such as the characteristics of the FPLH, the soil, the groundwater, and the FPLH recovery method. It appears that the FPLH thickness in the monitoring wells is greater than the thickness of FPLH in the formation.

20. In November and December of 1991, Tosco installed new FPLH delineation/recovery wells in Tracts 1 and 2. During 1992, new skimming recovery systems were designed and constructed which are different from the previous recovery system of pumping FPLH and groundwater. The new FPLH-only recovery systems consist of eleven extraction wells and an extraction trench in Tract 1, and nine extraction wells in Tract 2.

21. Nine of the newly installed recovery system have begun service in Tracts 1 and 2. Tract 3 recovery wells are being retro-fitted with the new skimming recovery systems and have not yet begun operating. A FPLH delineation of the site formerly occupied by a PG&E co-generation plant in Tract 2 was partially completed, and the site is known to have a FPLH pool. No recovery systems were installed for Tract 4-North or Tract 6 pools.

Information Derived from the dischargers' Comments

22. Since December 1992, additional information has been provided to the Board by Tosco, Phillips, and Tidewater. The review of the subject information revealed that there are areas in the facility with potential of having FPLH pools which need further investigation and delineation. This review also revealed that the facility lacks a comprehensive perimeter groundwater monitoring plan. Staff will work with the dischargers to develop a program to satisfy all monitoring needs at the facility.

Basin Plan

23. The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) on December 17, 1986 and amended it on August 19, 1987,

July 18, 1989, December 11, 1991, and September 16, 1992. The State Water Resources Control Board adopted State-wide plans for Enclosed Bays and Estuaries and Inland Surface Waters on April 11, 1991. The State plans contain water objectives for Suisun Bay. This Order implements the water quality objectives for Suisun Bay as stated in the Basin Plan.

24. The existing and potential beneficial uses of the ground water in the area, as identified in the Basin Plan, are:

    a. Municipal and Domestic Supply;
    b. Industrial Process and Service Supply; and,
    c. Agricultural Supply.

25. The existing and potential beneficial uses of the Suisun Bay, as identified in the Basin Plan, are:

    a. Industrial Process and Service Supply;
    b. Navigation;
    c. Water Contact Recreation;
    d. Non-Contact Recreation;
    e. Ocean Commercial and Sport Fishing;
    f. Wildlife Habitat;
    g. Preservation of Rare and Endangered Species;
    h. Fish Migration and Spawning; and,
    i. Estuary Habitat.

California Environmental Quality Act

26. This action is an Order to enforce the laws and regulation administered by the Board. This action is categorically exempt from the provisions of California Environmental Quality Act pursuant to Section 15321, Title 14 of the California Code of Regulations.

Notifications and Meeting

27. Pursuant to Section 13304 of the Water Code, the dischargers are hereby notified that the Regional Board is entitled to, and may seek reimbursement for all reasonable costs actually incurred by the Regional Board to investigate unauthorized discharges of waste and to oversee clean up of such waste, abatement of the effects thereof, or other remedial action, required by this order. Upon receipt of a billing statement for such costs, the dischargers shall reimburse the Regional Board; provided, however, that the dischargers shall be entitled to administrative and judicial review, as provided by law, for any costs that dischargers believe to be inconsistent with Section 13304 of the Water Code.

28. The Board has notified the dischargers and interested agencies and persons of its intent to prescribe site cleanup requirements and has provided them with an opportunity for a public hearing and an opportunity to submit their written views

and recommendations.

29. The Board, in a public hearing, held on July 21, 1993, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, pursuant to Section 13304 of the California Water Code and 25270 of the California Health and Safety Code, that Tosco, Phillips, and Tidewater shall cleanup and abate the effects described in the above findings as follows:

A. Prohibitions

1. The discharge of refined petroleum, unrefined petroleum, or crude oil (herein collectively "pollutants") in a manner which will degrade water quality or adversely affect the beneficial uses of the waters of the State is prohibited.

2. Further significant migration of pollutants through subsurface transport to waters of the State is prohibited.

3. Activities associated with subsurface investigation and cleanup which will cause significant adverse migration of pollutants are prohibited.

4. The discharge of recovered FPLH onto land, into ground waters or surface waters is prohibited.

B. Specifications

1. The storage, handling, treatment or disposal of soil or groundwater containing pollutants shall not create a nuisance as defined in Section 13050(m) of the California Water Code.

2. The dischargers shall remove all pools of FPLH beneath the facility.

3. The dischargers shall remediate soil and water contamination, which actually or threatens to degrade water quality or adversely affect the beneficial uses of the waters of the State.

4. Tosco shall install appropriate petroleum release detection systems in compliance with § 25270.7 of Health and Safety Code to detect any new release from aboveground tanks and pipes at this facility. Tosco shall be responsible for cleanup of new releases.

C. Provisions

The dischargers shall comply with the Prohibitions and Specifications above according to the following time schedule:

1. The dischargers shall submit a technical report, acceptable to the Executive Officer, documenting delineation of FPLH pools in Tract 1, south of Tract 3 around wells

EEI-41 and MK-36A, Tract 4 north side of well EEI-71, and south side of well EEI-30, and in Tract 6 around well EEI-37.

REPORT DUE: No later than June 1, 1994

2. The dischargers shall submit a technical report, acceptable to the Executive Officer, documenting a work plan for investigation and delineation of potential additional FPLH pools in contaminated sites, in Tracts 1, 2, 3, 4, and 6.

REPORT DUE: No later than April 4, 1994.

3. The dischargers shall submit a technical report, acceptable to the Executive Officer, proposing a comprehensive perimeter groundwater monitoring plan.

REPORT DUE: No later than June 1, 1994.

4. The dischargers shall submit a technical report, acceptable to the Executive Officer, documenting a 50 percent reduction in FPLH thickness, for Tracts 1 and 2, over the two year period from January 1993 through December 1994, as indicated by the average of measurements made in designated observation wells. Should the dischargers fail to meet this reduction, this technical report should include the reasons for not achieving this goal and the corrective measures to achieve the overall goal for December 1996.

REPORT DUE: No later than June 1, 1995.

5. The dischargers shall submit a technical report, acceptable to the Executive Officer, documenting a 80 percent reduction in FPLH thickness, for Tract 3, over the ten year period from January 1985 through December 1994, as indicated by the average of measurements made in designated observation wells. Should the dischargers fail to meet this reduction, this technical report should include the reasons for not achieving this goal and the corrective measures to achieve the overall goal for December 1996.

REPORT DUE: No later than June 1, 1995.

6. The dischargers shall submit a technical report, acceptable to the Executive Officer, documenting a 75 percent reduction in FPLH thickness, for Tracts 1 and 2, over the four year period from January 1993 through December 1996, as indicated by the average of measurements made in designated observation wells.

REPORT DUE: No later than June 2, 1997.

7. The dischargers shall submit a technical report, acceptable to the Executive Officer, documenting a 90 percent reduction in FPLH thickness, for Tract 3, over the twelve year period from January 1985 through December 1996, as indicated by the average of measurements made in designated observation wells.

REPORT DUE: No later than June 2, 1997.

8. Tosco shall provide reasonable facility access and to work with Tidewater and Phillips in selecting a consultant and conducting the required cleanup.

9. The dischargers shall submit a technical report, acceptable to the Executive Officer, related to the remediation of hydrocarbon contaminated soil and ground water, including, but not necessarily limited, to the following:

   a. The horizontal and vertical extent of hydrocarbon contaminated soil and ground water, rate and direction of movement of the contaminated ground water beneath the facility; and,

   b. A remediation plan including a time schedule for all hydrocarbon contaminated soil and ground water beneath the facility.

   REPORT DUE: No later than August 1, 1997.

10. The dischargers are required to reimburse the State for all reasonable costs actually incurred by the Regional Board in overseeing or contracting for cleanup or abatement of the effects thereof as required by this order and as stated in Finding No. 27 above.

11. Technical reports, submitted by the dischargers, in compliance with the Prohibitions, Specifications, and Provisions of this Order shall be submitted to the Board on the schedule specified herein. These reports shall consist of a letter report that includes the following:

   a. A summary of work completed since submittal of the previous report and work projected to be completed by the time of the next report;

   b. Identification of any obstacles which may threaten compliance with the schedule of this Order and what actions are being taken to overcome these obstacles;

   c. In the event of non-compliance with any Prohibition, Specification or Provision of this Order, written notification which clarifies the reasons for non-compliance and proposes specific measures and a schedule to achieve compliance, this written notification shall identify work not completed that was projected for completion, and shall identify the impact of non-compliance on achieving compliance with the remaining requirements of this Order; and,

   d. In the self-monitoring reports, an evaluation of the current ground water monitoring system and a proposal for modifications as appropriate.

12. All submittal of hydro-geological plans, specifications, reports, and documents (except quarterly progress and self-monitoring reports) shall be signed by and

stamped with the seal of a registered geologist, registered engineering geologist, or registered professional engineer.

13. The dischargers shall maintain all existing wells in operating condition. The destruction of any groundwater well shall be done according to the Contra Costa County or Department of Water Resources guidance. The destruction, replacement, or intentional loss from service of any observation stations associated with the Self Monitoring Program under this Order shall require a written notification to the Regional Board's Executive Officer at least 30 days in advance. In addition, the yearly summary report shall include a summary of all observation stations associated with the Self Monitoring Program under this Order installed, destroyed, replaced, or that intentionally lost service during that period.

14. All samples shall be analyzed by State certified laboratories or laboratories accepted by the Board using approved EPA methods for the type of analysis to be performed. All laboratories shall maintain quality assurance/quality control records for Board review.

15. The dischargers shall maintain in good working order, and operate as efficiently as possible, any facility or control system installed to achieve compliance with the requirements of this Order.

16. Copies of all correspondence, reports, and documents pertaining to compliance with the Prohibitions, Specifications, and Provisions of this Order, submitted by the dischargers, shall also be provided to the following agencies:

    a. Contra Costa County Health Department;
    b. California Environmental Protection Agency, Department of Toxic Substances Control; and,
    c. EPA Region IX.

17. Tosco shall permit the Board or its authorized representative, in accordance with Section 13267 (c) of the California Water Code, the following:

    a. Entry upon the premises in which any pollution sources exist, or may potentially exist, or in which any required records are kept, which are relevant to this Order;

    b. Access to copy any records required to be kept under the terms and conditions of this Order;

    c. Inspection of any monitoring equipment or methodology implemented in response to this Order; and,

    d. Sampling of any ground water or soil which is accessible, or may become accessible, as part of any investigation or remedial action program undertaken by the dischargers.

18. The dischargers shall remove and relocate any wastes which are discharged at this site in violation of these requirements.

19. This Board considers the property owner and site operator to have continuing responsibility for correcting any problems which arise in the future as a result of this cleanup or related operations.

20. These requirements do not authorize the commission of any act causing injury to the property of another or of the public, do not convey any property rights, do not remove liability under federal, state or local laws, and do not authorize the discharge of waste without the appropriate federal, state or local permits, authorizations, or determinations.

21. Pursuant to, or unless otherwise stated in, the requirements of California Water Code Sections 13271 and 13272, if any hazardous substance, sewage, chemicals, refined petroleum, unrefined petroleum, or crude oil is discharged in or on any waters of the state, or discharged or deposited, or probably will be discharged in or on any waters of the state, Tosco shall report such discharge to the following:

    a. The Office of Emergency Services at (800) 852-7550 immediately;

    b. This Regional Board at (510) 286-1255 on weekdays during office hours from 8 a.m. to 5 p.m.;

    c. A written report shall be filed with the Regional Board within five working days and shall include but not limited to the information relative to the following:

        i. The nature of waste or pollutant;
        ii. The quantity involved and the duration of incident;
        iii. The cause of spill;
        iv. The estimated size of the affected area;
        v. The corrective measures that have been taken or planned, and a schedule of these measures;
        vi. Number and identity of existing or "planned to install" monitoring or recovery wells around the spill site;
        vii. Within five days from the date of spill, any up-gradient, co-gradient, and down-gradient monitoring wells within 100 feet of the spill site shall be monitored for the occurrence of FPLH;
        viii. A detailed map presenting the spill site, any aboveground tanks, and any existing waste management units in the vicinity of the spill area; and,
        ix. The persons/agencies notified.

    d. On a quarterly basis, 45 days after end of each quarter, a written report shall be filed with the Regional Board and shall document the corrective actions in progress or completed for any spill occurred after January 1, 1990, or may occur in future. This report may be combined with the quarterly progress reports. Should the cleanup of a spill be completed as

satisfactory to the Executive Officer, a certification of completion should be included. Method and quantity of treatment or disposal of soil and groundwater should be documented. The progress on cleanup work should be reported quarterly until the completion. Monitoring and chemical analysis of soil and groundwater data, along with the laboratory report should be tabulated in this report. The quarterly progress reports shall contain a section regarding status of soil and groundwater cleanup of the spill locations, which the cleanup is not completed. This section shall include but no be limited to the information as follows:

i. Number and name of monitoring wells, recovery wells, recovery trenches with necessary information such as well characteristics, trenches dimension, and maps;

ii. Monitoring wells as identified for each spill per Provision 21.c.vii. shall be monitored monthly for three months after the date of spill;

iii. Volume (gallons), time period, principal contamination, and method of free product recovery; and,

iv. The implementation schedule for the remaining cleanup works, as needed.

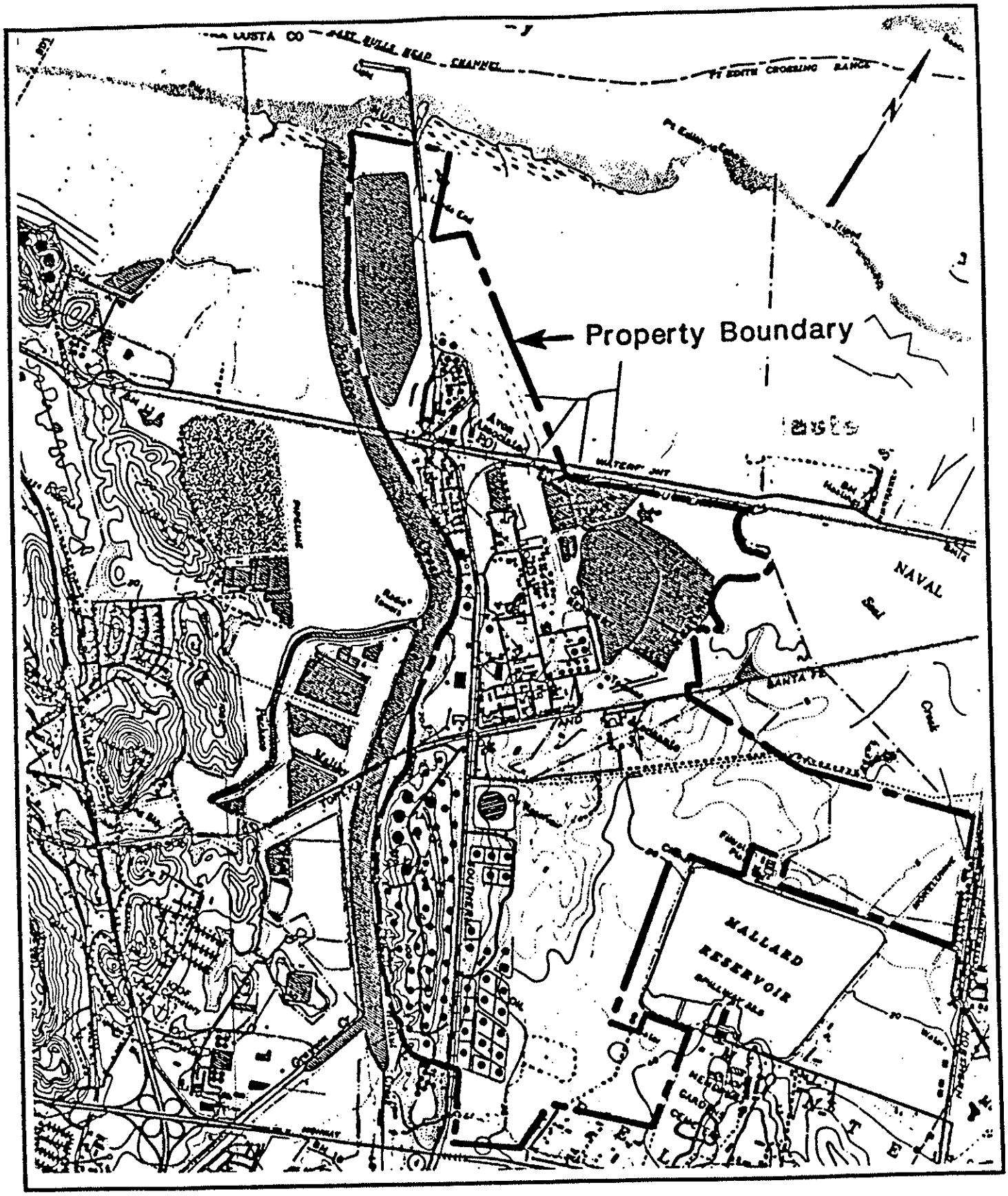
22. This Order rescinds the existing Site Cleanup Requirements Order No. 90-088. The Board will review the Order periodically and may revise the requirements when necessary, provided, however, that the dischargers shall be entitled to administrative and judicial review for any revisions not otherwise acceptable to dischargers as provided by law.

23. If the dischargers are delayed, interrupted or prevented from meeting one or more of the completion dates specified in this Order, the dischargers shall promptly notify the Executive Officer and the Board may consider revision of this Order.

I, Steven R. Ritchie, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region on July 21, 1993.

Steven R. Ritchie
Executive Officer

Attachments:
Figure 1: Location Map
Figure 2: Location of FPLH pools
Self Monitoring Program



Base Map: USGS topographic quadrangles; Clayton, Honker Bay, Vine Hill, Walnut Creek

PROJECT NO

Figure 1: Location Map

DRAWING NO

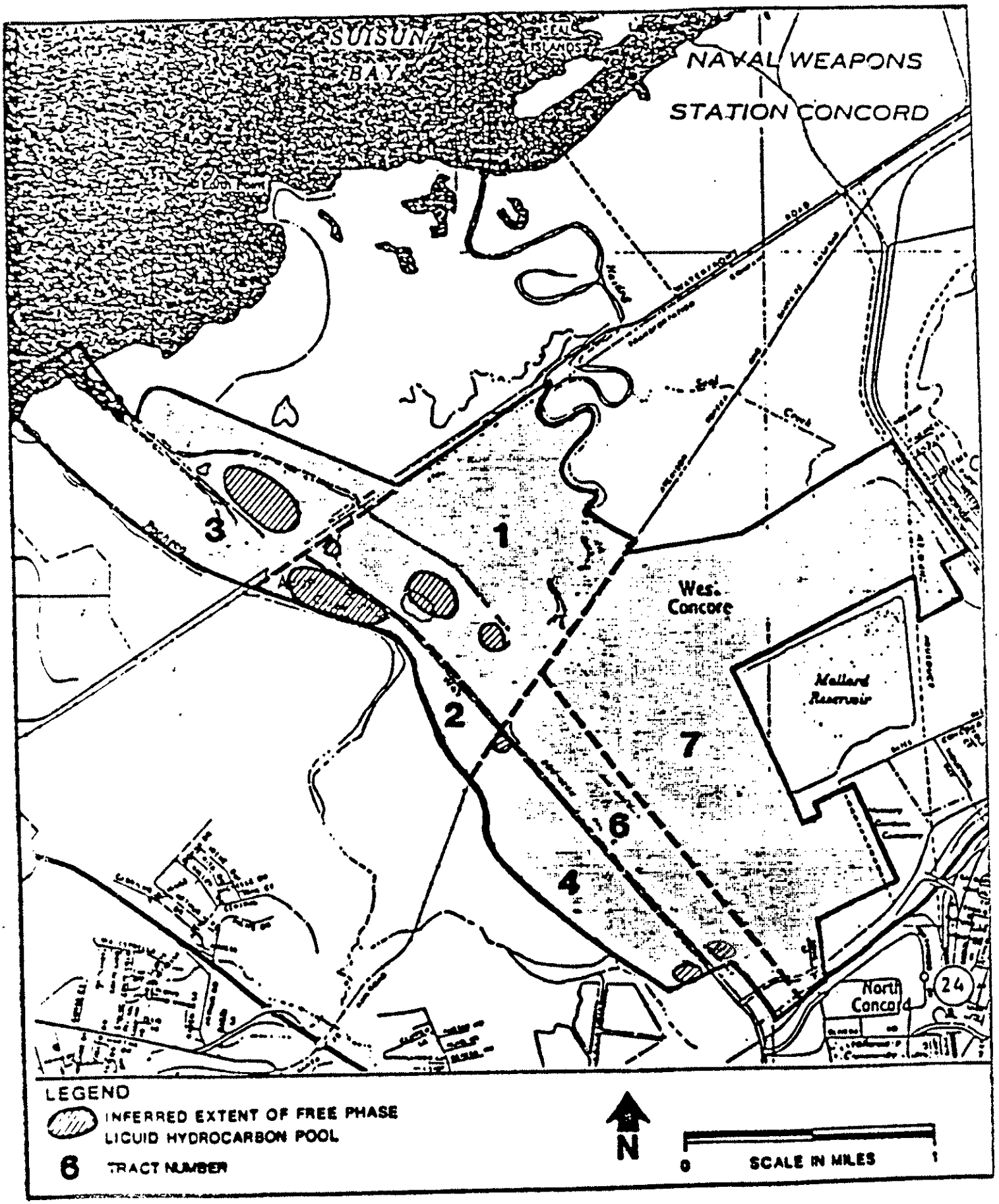


Figure 2: Location of FPLH pools

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM

FOR

TOSCO REFINING COMPANY AND TOSCO CORPORATION
AVON REFINERY
CONTRA COSTA COUNTY

SITE CLEANUP REQUIREMENTS

ORDER NO. 93-079

CONSISTS OF

PART A

AND

PART B

PART A

A. General

1. Reporting responsibilities of waste dischargers are specified in Sections 13225(a), 13267(b), 13383, and 13387(b) of the California Water Code and this Regional Board's Resolution No.73-16.

2. The principal purposes of a self-monitoring program by a waste discharger are the following:

   a. To document compliance with Site Cleanup Requirements and prohibitions established by the Board;

   b. To facilitate self-policing by the waste discharger in the prevention and abatement of pollution arising from waste discharge;

   c. To develop or assist in the development of standards of performance, toxicity standards and other standards; and,

   d. To prepare water and wastewater quality inventories.

B. Sampling And Analytical Methods

1. Sample collection, storage, and analyses shall be performed according to the most recent version of Standard Methods for the Analysis of Wastewater, and Test Methods for Evaluating Solid Waste EPA Document SW-846, or other EPA approved methods and in accordance with an approved sampling and analysis plan.

2. Water and waste analysis (except total suspended solids) shall be performed by a laboratory approved for these analyses by the State Department of Health. The director of the laboratory or his duly authorized representative, whose name appears on the certification shall supervise all analytical work in his/her laboratory and shall sign all reports of such work submitted to the Regional Board.

3. All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements.

C. Definition Of Terms

1. A grab sample is a discrete sample collected at any time.

2. Duly authorized representative is a duly authorized representative may thus be either a named individual or any individual occupying a named position such as the following:

a. Authorization is made in writing by a principal executive officer; or,

b. Authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as general partner in a partnership, sole proprietor in a sole proprietorship, the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company.

D. Schedule Of Sampling, Analysis, And Observations

1. The discharger is required to perform sampling, analysis, and observations according to the schedule specified in Part B, and the requirements in Article 5 of Chapter 15.

2. A statistical analysis shall be performed and reported annually as described in the current revision of Article 5 of Chapter 15.

E. Records To Be Maintained By The discharger

1. Written reports shall be maintained by the discharger for groundwater monitoring and wastewater sampling, and shall be retained for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge or when requested by the Board. Such records shall show the following for each sample:

   a. Identity of sample and sample station number;
   b. Date and time of sampling;
   c. Method of composite sampling (See Section C-Definition of Terms);
   d. Date and time that analyses are started and completed, and name of the personnel performing the analyses;
   e. Complete procedure used, including method of preserving the sample, and the identity and volumes of reagents used. A reference to a specific section of a reference required in Part A Section B is satisfactory;
   f. Calculation of results;
   g. Results of analyses, and detection limits for each analyses; and,
   h. Chain of custody forms for each sample.

F. Written Reports To Be Filed With The Board

1. Hydrocarbon recovery results shall be filed monthly, no later than the fifteenth day of the following month. The report shall be comprised of the total volume of recovered hydrocarbon from each recovery well for that month.

2. Free phase liquid hydrocarbon (FPLH) apparent thickness observations and groundwater monitoring reports shall be filed quarterly, no later than 45 calendar days following the end of the report period.

3. FPLH pools delineation observations and groundwater monitoring reports shall be filed

no later than the fifteenth of each October. In addition an annual report shall be filed as indicated. The reports shall be comprised of the following:

a. Letter of Transmittal - A letter transmitting the essential points in each self-monitoring report should accompany each report. Such a letter shall include a discussion of any requirement violations found during the last report period, and actions taken or planned for correcting the violations, such as, operation and/or facilities modifications. If the discharger has previously submitted a detailed time schedule for correcting requirement violations, a reference to the correspondence transmitting such schedule will be satisfactory. If no violations have occurred in the last report period this shall be stated in the letter of transmittal. Monitoring reports and the letter transmitting the monitoring reports shall be signed by a principal executive officer at the level of vice president or his duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge originates. The letter shall contain a statement by the official, under penalty of perjury, that to the best of the signer's knowledge the report is true, complete, and correct. The letter shall contain the following certification:

"I certify under penalty of law that this document and all attachments are prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who managed the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

b. Each monitoring report shall include a compliance evaluation summary sheet. Until the Order's amended to specify groundwater protection standards, the following shall apply and the compliance sheet shall contain:

i. The method and time of water level measurement, the type of pump used for purging, pump placement in the well, method of purging, pumping rate, equipment and methods used to monitor field pH, temperature, and conductivity during purging, calibration of the field equipment, results of the pH, temperature conductivity and turbidity testing, well recovery time, and method of disposing of the purge water; and,

ii. Type of pump used, pump placement for sampling, a detailed description of the sampling procedure; number and description of equipment, field and travel blanks; number and description of duplicate samples; type of sample containers and preservatives used, the date and time of sampling, the name and qualifications of the person actually taking the samples, and any other observations; the chain of custody record.

c. A summary of the status of any remediation work performed during the reporting period. This shall be a brief and concise summary of the work initiated and completed as follows:

i. As interim corrective action measures; and,

ii. To define the extent and rate of migrations of waste constituents in the soil and groundwater at the site.

d. The discharger shall describe, in the quarterly report, the reasons for significant increases in a pollutant concentration or the FPLH thickness at an observation well onsite. The description shall include the following:

i. The source of the increase;

ii. How the discharger determined or will investigate the source of the increase; and,

iii. What source removal measures have been completed or will be proposed.

e. A map or aerial photograph showing observation and recovery well locations, and FPLH thickness or contaminants concentration in each aquifer, shall be included as part of the quarterly Self-Monitoring Report.

f. Laboratory statements of results of analyses specified in Part B must be included in each report. The director of the laboratory or his duly authorized representative, whose name appears on the laboratory certification shall supervise all analytical work in his/her laboratory and shall sign all reports of such work submitted to the Board. The following information shall be provided:

i. The methods of analyses and detection limits must be appropriate for the expected concentrations. Specific methods of analyses must be identified. If methods other than EPA approved methods or Standard Methods are used, the exact methodology must be submitted for review; and,

ii. In addition to the results of the analyses, laboratory quality control/quality assurance (QA/QC) information must be included in the monitoring report. The laboratory QA/QC information should include the method, equipment and analytical detection limits; the recovery rates; an explanation for any recovery rate that is less than 80%; the results of equipment and method blanks; the results of spiked and surrogate samples; the frequency of quality control analysis; and the name and qualifications of the person(s) performing the analyses.

g. By March 1 of each year the discharger shall submit an annual report to the Board covering the previous calendar year. This report shall contain:

i. Tabular and graphical summaries of the monitoring data obtained during the previous year;

ii. A comprehensive discussion of the compliance record, and the corrective actions taken or planned which may be needed to bring the discharger into full compliance with the Site Cleanup Requirements;

iii. A summary of all groundwater wells installed or destroyed, as shown in an areal map, during that year; and,

iv. A written summary of the groundwater analyses indicating any change in the quality of the groundwater.

Part B

A. Description Of Observation Stations And Schedule Of Observations

1. The observation stations that apply to hydrocarbon recovery shall consist of the wells listed below. Upon completion of Tract 3 hydrocarbon recovery wells, the identification and location shall be submitted thereafter in the quarterly report.

   Tract 1 Hydrocarbon Recovery Wells: WCC-100, WCC-101, WCC-102, WCC-106, WCC-107, WCC-108, WCC-117, WCC-118[1], EEI-33[1], EEI-80, EEI-82, and Trench.

   Tract 2 Hydrocarbon Recovery Wells: WCC-110, WCC-112, WCC-114, WCC-116, WCC-122, EEI-53[1], EEI-55, EEI-57, and EEI-59.

2. The observation stations that apply to apparent FPLH thickness shall consist of wells that are specific to each hydrocarbon recovery well or trench. The observation well identification shall be submitted after installation.

3. The observation stations that apply to delineation of FPLH pools shall consist of the wells listed below.

   Tract 1 Wells EEI-14, EEI-15, EEI-16[1], EEI-75, EEI-76, EEI-78, EEI-79, EEI-81, EEI-84, EEI-85, EEI-86, EEI-87, MK-26K, MK-32A, MK-33A, WCC-31S, WCC-105, WCC-109, CHW-11, CHW-12, and CHW-13.

   Tract 2 Wells EEI-18, EEI-19, EEI-35, EEI-54, EEI-56, EEI-64, EEI-66, EEI-69, HC-2, HC-3, HC-4, HC-5, WCC-113, WCC-115, WCC-119, WCC-120, WCC-121, MW-2, MW-3, MW-4, MW-7, MW-8, MW-9, MW-12, MW-17, MW-19, MW-20, MW-21, MW-22, MW-23, MW-24, and MW-25.

   Tract 3 Wells EEI-22, EEI-23, EEI-24, EEI-38, EEI-41, EEI-42, EEI-43, EEI-45, EEI-46, EEI-47, EEI-49, EEI-50, EEI-51, EEI-52, EEI-60, EEI-61, EEI-62, EEI-63, HC-7, HC-10, TS-6, A, B, D, E, F, and G.

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[1] This well has been destroyed to accommodate construction activities. The discharger will replace this well. This monitoring plan will be amended to reflect the replacement.

Tract 4 Wells EEI-71, 4-1, and MW-16.

Tract 6 Wells EEI-37, 6-7, and Z.

4. The schedule for well observations and grab sampling shall be conducted according to the following schedule:

a.	Monthly	Hydrocarbon Recovery within last day of each month.
b.	Quarterly	Apparent FPLH thickness observation within the months of March, June, September, and December.
c.	Annually	FPLH pool delineation, FPLH thickness or observations and tests as explained in B, within the month of August.

5. Isoplaths map of FPLH thickness measured in the monitoring wells.

6. A map showing the potentiometric surface of the underlying groundwater shall be submitted. This requirements shall not apply to groundwater wells with detected FPLH.

B. Observations and Test Procedures

1. The groundwater well observations shall consist of the following:

   a. Water elevation reported in hundredths of a foot for both depth to water from the ground surface and the elevation of the groundwater level as well as the elevation of the well screen;

   b. Groundwater temperature measured at the time of sampling and reported in degrees Fahrenheit. This requirements shall not apply to groundwater samples taken from wells with detected FPLH;

   c. Groundwater conductivity measured at the time of sampling as per Standard Methods 205 using potentiometric methodology. This requirements shall not apply to groundwater samples taken from wells with detected FPLH;

   d. Groundwater pH measured at the time of sampling as per Standard Methods 423 using potentiometric methodology. This requirements shall not apply to groundwater samples taken from wells with detected FPLH;

   e. Groundwater turbidity measured at the time of sampling. This requirements shall not apply to groundwater samples taken from wells with detected FPLH; and,

   f. The thickness of FPLH measured in hundredths of a foot.

2. The test procedures for the groundwater samples and soil samples shall be as described herein. The following section shall not apply to groundwater samples taken from wells with detected free phase petroleum hydrocarbon product:

a. Volatile aromatic compound analysis, including benzene, ethyl-benzene, toluene, and xylene using EPA Method 5030/8020;

b. Total Petroleum hydrocarbons and Fuel Hydrocarbons using the EPA Methods 5030/8015 (Modified) and 3550/8015 (Modified); and,

c. Total Recoverable Petroleum Hydrocarbons using Standard Methods 418.1.

I, Steven R. Ritchie, Executive Officer, hereby certify that the foregoing Self-Monitoring Program is as follows:

1. Developed in accordance with the procedures set forth in this Board's Resolution No. 73-16;

2. Effective on the date shown below; and,

3. May be reviewed or modified at any time subsequent to the effective date, upon written notice from the Executive Officer, or request from the discharger.

Steven R. Ritchie
Executive Officer

July 21, 1993
Date Ordered